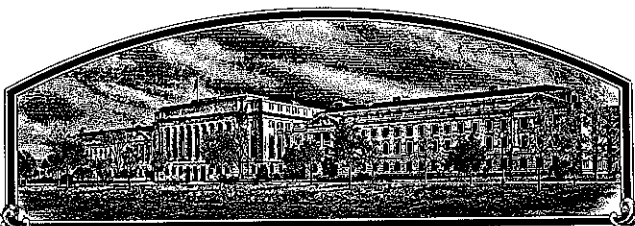


No.

9200055



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

JFR Cooperative

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'FFR 253'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 30th day of October in the year of our Lord one thousand nine hundred and ninety-two.

Attest:

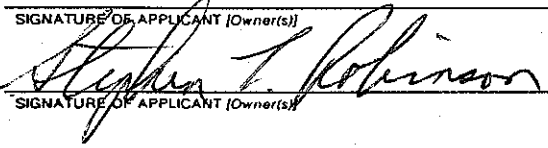
Kenneth B. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Edward Madigan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) FFR Cooperative		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. 16706	3. VARIETY NAME FFR 253				
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 4112 East State Road 225 West Lafayette, IN 47906		5. PHONE (include area code) 317/567-2115					
6. GENUS AND SPECIES NAME Glycine max		7. FAMILY NAME (Botanical) Leguminosae					
8. CROP KIND NAME (Common Name) Soybean		9. DATE OF DETERMINATION 2/85					
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation							
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Wisconsin		12. DATE OF INCORPORATION 1960					
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Stephen L. Robinson FFR Cooperative 4112 East State Road 225 West Lafayette, IN 47906							
		PHONE (include area code): 317/567-2115					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse) <table style="width:100%; border: none;"> <tr> <td style="width:50%; vertical-align: top;"> a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety. b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety. d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. f. <input checked="" type="checkbox"/> Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office <u>12-18-91</u> g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States." </td> <td style="width:50%; vertical-align: top;"> 15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> YES (If "YES," answer items 16 and 17 below) <input checked="" type="checkbox"/> NO (If "NO," skip to item 18 below) </td> </tr> <tr> <td style="vertical-align: top;"> 16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO </td> <td style="vertical-align: top;"> 17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED </td> </tr> </table>				a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety. b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety. d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. f. <input checked="" type="checkbox"/> Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office <u>12-18-91</u> g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."	15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> YES (If "YES," answer items 16 and 17 below) <input checked="" type="checkbox"/> NO (If "NO," skip to item 18 below)	16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED
a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety. b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety. d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. f. <input checked="" type="checkbox"/> Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office <u>12-18-91</u> g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."	15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> YES (If "YES," answer items 16 and 17 below) <input checked="" type="checkbox"/> NO (If "NO," skip to item 18 below)						
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED						
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> YES (If "YES," through <input type="checkbox"/> Plant Variety Protection Act <input type="checkbox"/> Patent Act Give date: _____) <input checked="" type="checkbox"/> NO							
19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES (If "YES," give names of countries and dates) <u>U.S.A. March 1991</u> <input type="checkbox"/> NO							
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.							
SIGNATURE OF APPLICANT (Owner(s)) 		CAPACITY OR TITLE Soybean Breeder					
SIGNATURE OF APPLICANT (Owner(s))		DATE 12-13-91					

ORIGIN AND BREEDING HISTORY OF THE VARIETY

'FFR 253' originated from a cross of 'Williams 82' and 'Pella'. The initial cross was made at Battle Ground, IN in 1982 and the F_1 generation was grown in a greenhouse at Lake City, SC in the winter of 1983. The early generations of 'FFR 253' were developed using a modified single seed descent selection method. The F_2 generation was grown at Brookston, IN in 1983 and the F_3 generation was grown the following winter in Chile. Single plant selections were made in the F_4 generation at Brookston, IN in 1984. The 1985 individual F_5 observation rows were planted and harvested at Brookston, IN.

'FFR 253' was first tested in replicated preliminary tests in 1986 at three locations. It was tested in a six location advanced trial and preliminary seed increase was begun in 1987. 'FFR 253' was tested at three locations in 1988 and breeder seed was grown at this time. Further testing was conducted in 1989 at five locations.

'FFR 253' was first checked for uniformity and stability in the F_5 generation and subsequently in the F_7 , F_8 , and F_9 generations. During these observations the variety was shown to be uniform and stable. Since the establishment of breeder seed in 1988 and in each subsequent year of breeder seed production the variety has been uniform and stable. 'FFR 253' is essentially free of contaminants at the present time.

14B. EXHIBIT B

NOVELTY STATEMENT

'FFR 253' is most similar to the variety 'Century 84'.

'FFR 253' differs from 'Century 84' in the following characteristics:

1. 'FFR 253' has a tan colored pod while 'Century 84' has a brown colored pod.
2. 'FFR 253' has white flowers while 'Century 84' has purple flowers.
3. 'FFR 253' has 1.8 gm/100 seed larger seed than 'Century 84'.

Three year seed size data from Illinois, Indiana, and Ohio

	1989 Chenoa <u>IL</u>	1990 Otterbein <u>IN</u>	1990 Lafayette <u>IN</u>	1991 Otterbein <u>IN</u>	1991 S. Charleston <u>OH</u>	Avg.
FFR 253	19.5	20.1	19.5	16.8	19.0	19.0
Century 84	16.9	18.0	18.4	15.2	17.3	17.2
LSD(.05)	1.1	1.1	0.9	1.1	0.9	
C.V.(%)	4.5	3.8	2.9	4.1	3.1	

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION
 PLANT VARIETY PROTECTION OFFICE
 BELTSVILLE, MARYLAND 20705

EXHIBIT C
 (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) FFR Cooperative	TEMPORARY DESIGNATION 16076	VARIETY NAME FFR 253
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 4112 East State Road 225 West Lafayette, IN 47906		FOR OFFICIAL USE ONLY PVPO NUMBER 9200055

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)

3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)

4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a)2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 1

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 1

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 21 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 05

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0

Race 1

☐ Race 2☐ Race 3☐ Race 4☐ Race 5☐ Other (Specify)☐Target Spot (*Corynespora cassicola*)☐Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐Powdery Mildew (*Microsphaera diffusa*)

★

☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ Purple Seed Stain (*Cercospora kikuchii*)
- ☐ Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 2 Race 1 ☐ 2 Race 2 ☐ 2 Race 3 ☐ 2 Race 4 ☐ 2 Race 5 ☐ 2 Race 6 ☐ 2 Race 7
- ☐ 2 Race 8 ☐ 2 Race 9 ☐ 2 Other (Specify) 10-11, 13-15, 17-18, 21-22, 24, 26

VIRAL DISEASES:

- ☐ Bud Blight (Tobacco Ringspot Virus)
- ☐ Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 1 Race 1 ☐ 0 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ Other (Specify) _____
- ☐ Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 0 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Pella	Seed Coat Luster	Corsoy 79
Leaf Shape	Pella	Seed Size	Pella
Leaf Color	Pella	Seed Shape	Pella
Leaf Size	Pella	Seedling Pigmentation	Williams 82

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	127	1.5	88			39.7	23.0	19.0	
Century 84 Name of Similar Variety	126	1.2	88			42.5	21.1	17.2	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

14D. EXHIBIT D

ADDITIONAL DESCRIPTION OF VARIETY

'FFR 253' is an early group II soybean variety. It has white flowers, brown pubescence, tan colored pods, yellow seed, and a black hilum. 'FFR 253' has combined the Rps1-k gene for resistance to Phytophthora root rot and excellent lodging resistance. With these characteristics it is extremely well adapted to the area where early group II soybean varieties are grown.

14E. EXHIBIT E.

STATEMENT OF THE BASIS OF APPLICANTS OWNERSHIP

'FFR 253' was bred by breeders employed by FFR Cooperative. Employees of FFR Cooperative have no claim or rights of ownership to 'FFR 253'. Ownership of 'FFR 253' belongs to FFR Cooperative.